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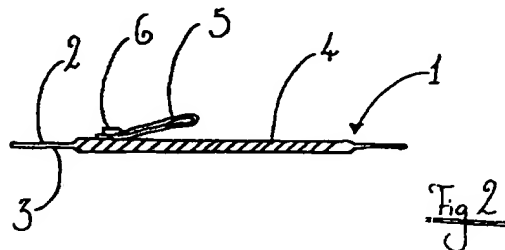
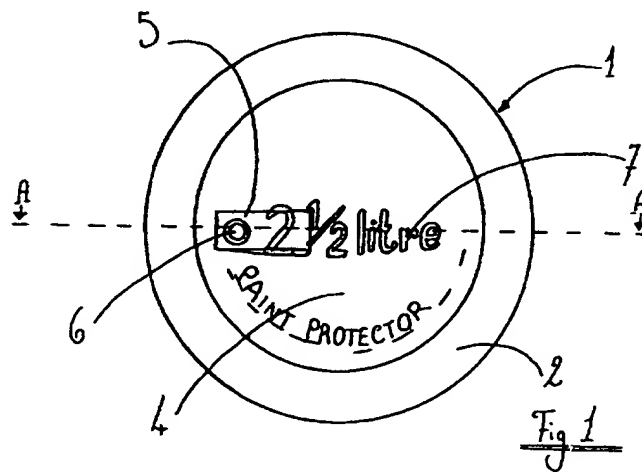
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(56) Documents Cited  
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## (54) Anti skinning insert for paint cans and the like

(57) An insert for preventing the formation of skin on the surface of paint in a part used can comprises a flexible disc shaped member which is inserted into the can and contacts the side walls of the can and is pushed down into contact or close proximity to the surface of the paint. It may be in the form of a central body 4 of foam plastics material or cardboard sandwiched between two layers of flexible plastics 2,3 which are joined at the overlapping edges to form the can contacting flexible part. It preferably also has a handle means such as loop 5 for pulling it out. It is also usable for can or like containers of other products such as those in powder form. It may also be other shapes depending upon the shape of the container - eg square and may also be dished in shape with a raised central portion for gripping purposes.



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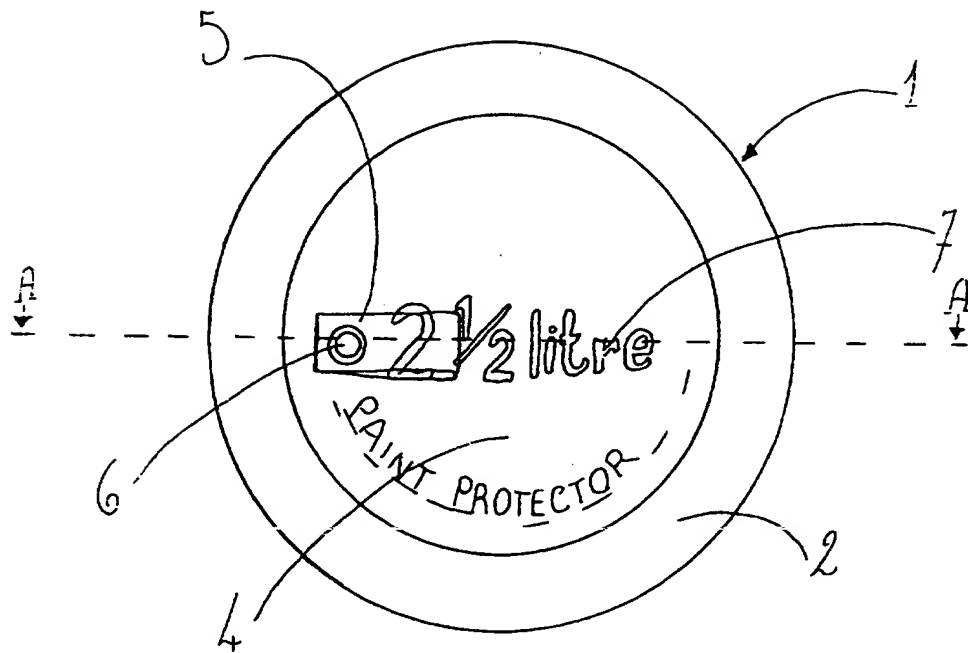


Fig 1

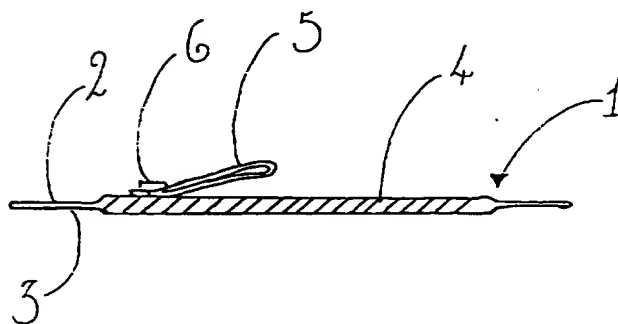


Fig 2

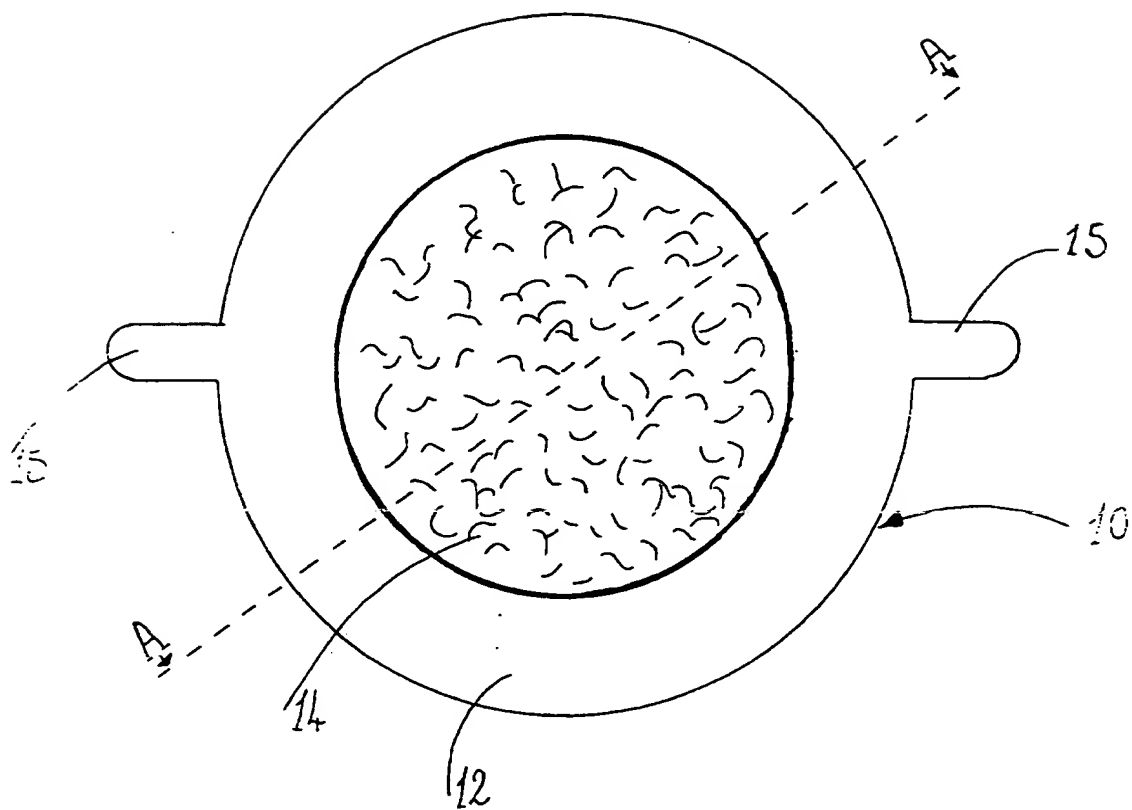


Fig 3.

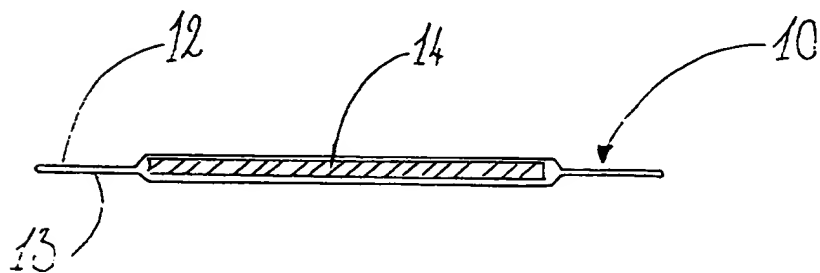


Fig 4.

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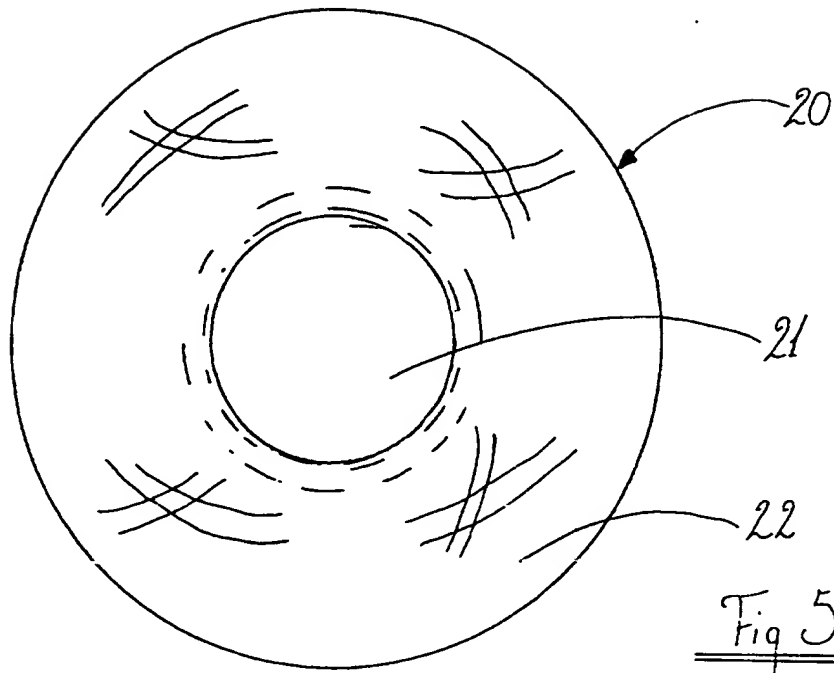


Fig 5

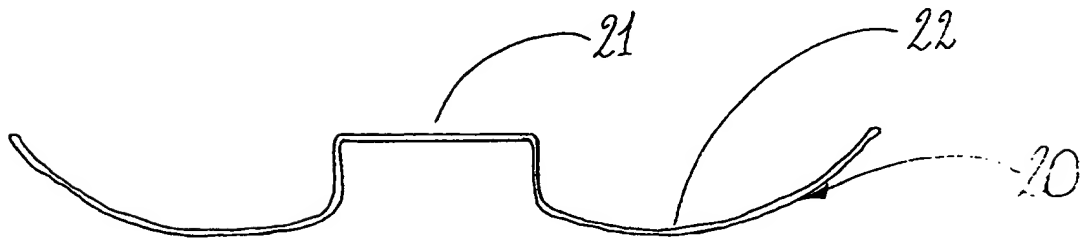


Fig 6

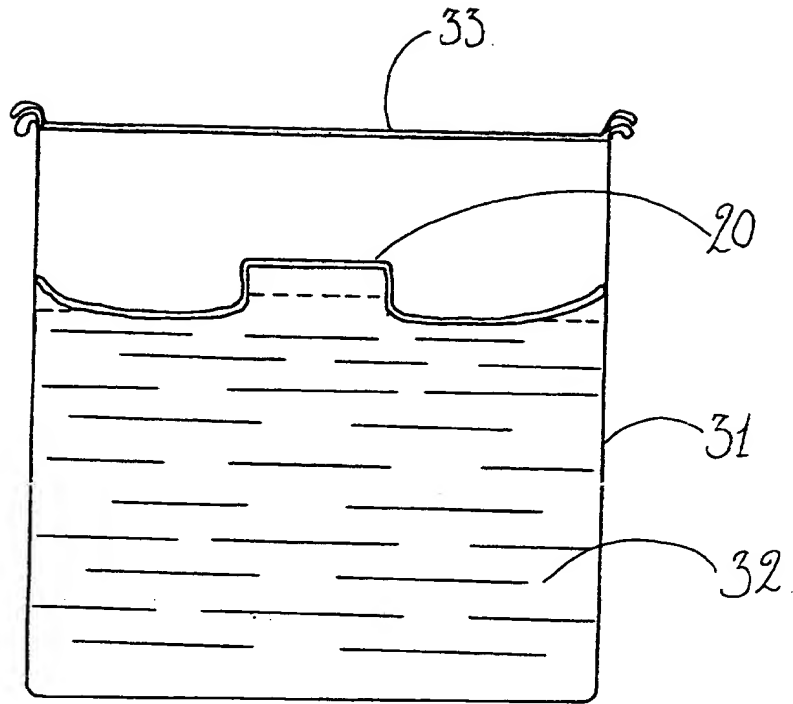


Fig 8

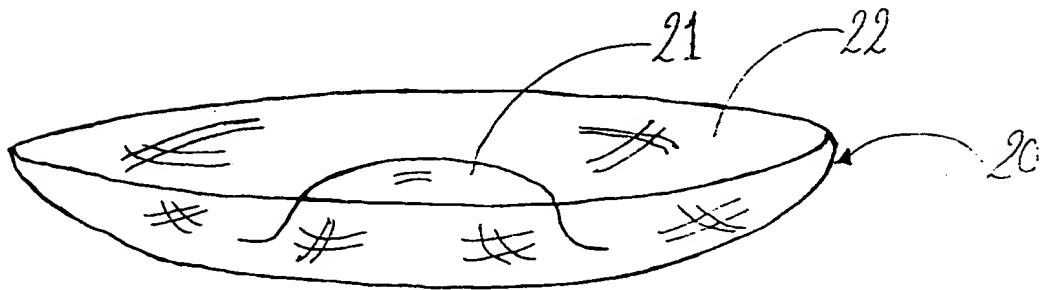


Fig 7

Improvements in or to Relating to Packaging Paint

5       The present invention primarily relates to a paint protector comprising a disc insert, for use with paint tins, which is adapted to prevent the formation of skin on the surface of paint in a partially filled tin of paint and other substances, and paint cans equipped with such a paint protector.

10       Both amateur and profession decorators are familiar with the formation of a skin on the surface of paint in partial filled cans of paint. This phenomena results in small pieces of solid paint being dispersed in the fluid paint in a can, when attempts are made to pierce, or remove, the skin to get at the underlying fluid paint. When the paint is applied to a surface, these pieces of  
15       solid paint can be dispersed over the surface, with the fluid paint, spoiling the finish produced by the paint. This problem is particularly marked with oil based paints such as gloss paints and undercoats.

20       The traditional way of dealing with this problem is to store partially filled cans of paint in an inverted position, so that any skin is formed on the bottom surface of the paint. This is far from an ideal solution, since paint can leak out from the inverted lid of a paint can and, if a paint can is not properly  
25       closed, the consequences of inverting the can are decidedly messy.

30       The present invention provides a particularly simple and cheap solution to this problem. A disc insert, or paint protector, is disposed on the surface of the paint in a partially filled can of paint. The disc insert prevents air contacting the surface of the paint and thus prevents formation of a skin on the

surface of the paint. The disc insert may be provided with a tab, or handle, to assist in removal of the disc insert before use of the paint.

5           The paint protector of the present invention can be used inside a paint tin equipped with a conventional lid. or alternately can be used to provide a cover for the surface of paint contained in an open paint can, as used by painters to hold relatively small quantities of paint. The paint protector can be made in a variety of  
10       sizes, normally of circular periphery, but having peripheries of other shapes for square, or rectangular paint cans.

          Although primarily intended for use with paint, the paint protector of the present invention can also be  
15       used with other substances, for example, other liquids with a tendency to form a skin on contact with air, or even powders which may react with atmospheric water vapour.

          The paint protector, or can seal, of the present  
20       invention may be constructed of materials and in a form which adapt it for reuse.

          According to a first aspect of the present invention, there is provided a paint protector, for prevention of the formation of a skin on the surface of  
25       paint, comprising a disc of material having a periphery approximately corresponding to the interior side wall of a paint can with which it is intended to be used and grip means for assisting in the removal of the paint protector from a can of paint.

30           The paint protector may have a generally circular periphery.

The disc of material may be a disc of flexible material.

5           The disc of material may be formed from a sandwich comprising an inner disc of foamed plastics encased between two sheets of plastics film, said two sheets of plastics film being bonded together.

Said grip means may comprise two plastics tab extensions formed in said two sheets of plastics film.

10           Alternatively the disc of material may be formed from a sandwich comprising an inner disc of cardboard encased between two sheets of plastics film, said two sheets of plastics film being bonded together.

Alternatively said grip means may comprise a loop of plastics tape attached to said disc of material.

15           Said inner disc may be adapted to bear indicia.

Alternatively said disc of material is a bowl shaped plastics disc with a raised land at the centre thereof, said raised land adapted to act as a grip means.

20           Said disc of material may be resilient and adapted to engage the inner wall of a paint can.

According to a second aspect of the present invention there is provided a paint can including a paint protector as described above.

25           According to a third aspect of the present invention there is provided a method of inhibiting the formation of a skin on a paint surface in a partially filled can of paint, comprising placing a cover in



intimate contact with the paint surface thereby isolating said paint surface from air.

Preferably said cover is substantially co-extensive with said paint surface.

5           Said cover may be buoyant.

Said cover may be flexible.

Said cover may be resilient.

Said cover may elastically engage a side wall of a paint can.

10           According to a fourth aspect of the present invention there is provided a can seal for inhibiting atmospheric access to the content of a partially filled can of liquid, or powder, or the like, comprising a disc of material having a periphery approximately  
15           corresponding to the interior side wall of said partially filled can and grip means for assisting in the removal of the can seal from the partially filled can.

The can seal may be adapted to be reusable.

20           Embodiments of the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a plan view of a first embodiment of a paint protector, according to the present invention.

25           Figure 2 is a section through the paint protector illustrated in Figure 1, along line A-A.

Figure 3 is a plan view of a second embodiment of a paint protector, according to the present invention.

5

Figure 4 is a section through the paint protector illustrated in Figure 3, along line A-A.

Figure 5 is a plan view of a third embodiment of a paint protector according to the present invention.

Figure 6 is a section through the paint protector illustrated in Figure 5.

10

Figure 7 is a projection of the paint protector illustrated in Figures 5 and 6.

Figure 8 illustrates a sectional view of a partially filled paint can fitted with the paint protector illustrated in Figures 5 to 7.

15

It will be understood that the term disc, as herein used, is intended to refer to a sheet of material having a periphery which corresponds to the internal shape of a paint can. The term disc is not intended to imply that the periphery thereof is necessarily circular, nor that the surface of the disc is necessarily planar.

20

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30

Turning now to Figure 1 and 2, there is shown a paint protector, 1, having a generally circular periphery. The paint protector is constructed of a disc of material in the form of a sandwich having an inner cardboard disc 4, between two sheets of transparent flexible plastics, 2 and 3. The inner cardboard disc may be printed with indicia, 7, indicating, for example, the size of paint can with which the paint protector is intended for use. A loop of plastics tape 5, is attached to the disc by a rivet, or other fastening

means 6, and acts as a grip to facilitate removal of the paint protector from a can of paint.

5 A second embodiment of the present invention is illustrated in Figures 3 and 4. The paint protector, 10, is constructed from a polystyrene foam disc, 14, sandwiched between two sheets of plastics film, 12 and 13. The plastics sheets have tabs 15, formed on their outer edges, which act as grip means to facilitate removal of the paint protector from a can of paint. The foamed polystyrene inner disc ensures that the paint protector will float on the surface of paint in a paint can.

15 Turning now to Figures 5 to 7, there is illustrated a further embodiment of the present invention. The paint protector is formed from a resilient sheet of plastics, 22, in a bowl shape. At the centre of the bowl a land, 21, is formed which can act as a grip means. The land may be circular, or shaped to assist gripping for removal of the paint protector from a paint can. Typically, the paint protector may be made by vacuum forming onto an appropriately shaped mould. The bowl shape of the paint protector facilitates contact between the periphery of the paint protector and the inner wall of a paint can. The edge of the paint protector is thus biased against the wall of a paint can and it is this contact which retains the paint protector in position within the paint can.

30 Figure 8 illustrates the paint protector of Figures 5 to 7 in position in a can of paint. The paint can is of conventional design, having generally cylindrical side walls, 31, and is partially filled with paint, 32. A lid, 33, is used to seal the can and engages the upper rim of the can with a force fit. The paint protector 20 is located on the surface of the paint 32, and engages

the side walls, 31, of the paint can.

5           The embodiments of the invention described above  
use either a flexible disc, or a resilient disc.  
However, a rigid disc may also be employed, although not  
as effective as the above described embodiments. Such  
a rigid disc may be manufactured from thin plywood, for  
example, which will float on the surface of the paint.  
Unfortunately, in order to insert a paint protector made  
in the form of a rigid disc, the disc must be smaller  
10       than the diameter of the inner wall of the paint can to  
permit insertion and removal through the mouth of the  
paint can. This means that a little skin will form on  
the surface of the paint between the wall of the paint  
can and the edge of the paint protector.

15           Although it is an advantage if the edge of the  
paint protector is in contact with the walls of the  
paint can, it is not an essential feature of the present  
invention, provided the gap between the walls of the  
paint can and the paint protector is small.

20           The vast majority of paint cans are of circular  
cross-section, but some paint cans may be of square, or  
rectangular section. Thus in general the paint  
protector of the present invention will be in the form  
of a circular disc, but variants may be made to suit  
25       other shapes of can, e.g. as square, or rectangular  
discs.

30           Paint cans come in a variety of sizes, so paint  
protectors, according to the present invention will be  
produced in matching sizes. It is possible that paint  
protectors according to the present invention will be  
sold in packs containing a selection of sizes to suit a  
selection of different sizes of paint can. It may even  
be advantageous to produce paint protectors adapted for

use with buckets in which paint is temporarily stored.

Many variations of the present invention will be immediately apparent to those skilled in the art. All such variations are intended to fall within the scope of the present invention.

## CLAIMS

1. A paint protector for prevention of the formation of a skin on the surface of paint comprising a disc of material having a periphery approximately corresponding to the interior side wall of a paint can with which it is intended to be used and grip means for assisting in the removal of the paint protector from a can of paint.  
5
2. A paint protector as claimed in claim 1 having a generally circular periphery.
- 10 3. A paint protector as claimed in claim 1, or 2, in which the disc of material is a disc of flexible material.
4. A paint protector as claimed in any previous claim in which the disc of material is formed from a sandwich comprising an inner disc of foamed plastics encased between two sheets of plastics film, said two sheets of plastics film being bonded together.  
15
5. A paint protector as claimed in claim 4, in which said grip means comprises two plastics tab extensions formed in said two sheets of plastics film.  
20
6. A paint protector as claimed in any of claims 1 to 3 in which the disc of material is formed from a sandwich comprising an inner disc of cardboard encased between two sheets of plastics film, said two sheets of plastics film being bonded together.  
25
7. A paint protector as claimed in claim 4, in which said grip means comprise a loop of plastics tape attached to said disc of material.

8. A paint protector as claimed in any of claims 4 to 6, in which said inner disc is adapted to bear indicia.

5 9. A paint protector as claimed in any of claims 1 to 3, in which said disc of material is a bowl shaped plastics disc with a raised land at the centre thereof, said raised land adapted to act as a grip means.

10. A paint protector as claimed in claim 9, in which said disc of material is resilient and adapted to engage the inner wall of a paint can.

10 11. A paint can including a paint protector as claimed in any previous claim.

12 A paint can supplied with a paint protector as claimed in any of claims 1 to 10.

15 13. A method of inhibiting the formation of a skin on a paint surface in a partially filled can of paint, comprising placing a cover in intimate contact with the paint surface thereby isolating said paint surface from air.

20 14. A method as claimed in claim 13, wherein said cover is substantially co-extensive with said paint surface.

15. A method as claimed in either of claims 13, or 14, wherein said cover is buoyant.

16. A method as claimed in any of claims 13 to 15, wherein said cover is flexible.

25 17. A method as claimed in any of claims 13 to 16, wherein said cover is resilient.

18. A method as claimed in claim 17, wherein said cover

elastically engages a side wall of a paint can.

5 19. A can seal for inhibiting atmospheric access to the content of a partially filled can of liquid, or powder, or the like, comprising a disc of material having a periphery approximately corresponding to the interior side wall of said partially filled can and grip means for assisting in the removal of the can seal from the partially filled can.

10 20 A can seal as claimed in claim 19, in which said can seal is adapted to be reusable.

21. A paint protector substantially as hereinbefore described with reference to Figures 1 and 2 of the accompanying drawings.

15 22. A paint protector substantially as hereinbefore described with reference to Figures 3 and 4 of the accompanying drawings.

23. A paint protector substantially as hereinbefore described with reference to Figures 5 to 7 of the accompanying drawings.

20 24. A paint can fitted with a paint protector substantially as hereinbefore described with reference to Figure 8 of the accompanying drawings.





The  
Patent  
Office

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Application No: GB 9521552.1  
Claims searched: 1-24

Examiner: John Wilson  
Date of search: 11 October 1996

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): B8D[DCW10 DCW22 DFX DSX1]

Int Cl (Ed.6): B65D 81/00 81/24; B44D 3/12

Other: Online:- WPI

**Documents considered to be relevant:**

Category	Identity of document and relevant passage		Relevant to claims
X	GB2141413A	Miles - whole document	1-3, 11-20
X	GB2074974A	Allbrighton - whole document	1-3, 11-20
X	US5339981	Kral - whole document	1-3, 9-20
X	US5249692	Gunderson - see figs.1-3	1-3, 11-20
X	US5213230	Kral - whole document	1-3, 11-20
X	US4874108	Valasek - whole document	1-3, 9-20
X	US4625883	Burke & Spector - whole document	1-3, 9-20
X	US4416387	D'Antonio - whole document	1-3, 11-20

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.